

**AMENDMENTS TO THE CLAIMS**

Please amend the Claims as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (original): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity comprising the steps of:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of an aromatic nonpolar solvent while suspending the resulting dihydroxydiphenylsulfone therein;

mixing the resulting reaction suspension with a polar solvent to at least partially dissolve the dihydroxydiphenylsulfone; and

precipitating dissolved 4,4'-dihydroxydiphenylsulfone.

2 (original): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity comprising the steps of:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of an aromatic nonpolar solvent while suspending the resulting dihydroxydiphenylsulfone therein;

mixing the resulting reaction suspension with a polar solvent to at least partially dissolve the dihydroxydiphenylsulfone;

primarily precipitating dissolved 4,4'-dihydroxydiphenylsulfone;

isolating the resulting 4,4'-dihydroxydiphenylsulfone by filtration or decantation;

distilling off the solvents contained in the liquid obtained after the isolation of the 4,4'-dihydroxydiphenylsulfone to produce a suspension or distillation residue;

at least partially dissolving solids contained in the suspension or the residue in a mixed solvent of a polar solvent and a nonpolar solvent; and

secondarily precipitating 4,4'-dihydroxydiphenylsulfone.

3 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 1-~~or~~ 2, wherein the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid is carried out in the presence of an acid catalyst.

4 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of~~ Claims 1 ~~to~~ 3, wherein the aromatic nonpolar solvent is mesitylene.

5 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of Claims 1 to 4~~, wherein the polar solvent is selected from the group consisting of C<sub>4-15</sub> higher alcohols, polyols, and phenols.

6 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of Claims 1 to 5~~, wherein the polar solvent is phenol.

7 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of Claims 1 to 6~~, wherein the reaction suspension and the polar solvent are mixed while heating under pressure to at least partially dissolve dihydroxydiphenylsulfone.

8 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of Claims 2 to 7~~, wherein the solids contained in the suspension or the residue is at least partially dissolved in a mixed solvent of a polar solvent and a nonpolar solvent while heating under pressure.

9 (currently amended): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to ~~any one of Claims 2 to 8~~, wherein before or after the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid, 4,4'-dihydroxydiphenylsulfone obtained by secondary precipitation is introduced into the reaction system.

10 (original): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the temperature is maintained at the isomerization temperature or higher even after the solvents contained in the liquid obtained after the isolation of the primarily precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation are distilled off to produce a suspension or distillation residue.

11 (new): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the dehydration reaction between phenol and a sulfonating agent or phenolsulfonic acid is carried out in the presence of an acid catalyst.

12 (new): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the aromatic nonpolar solvent is mesitylene.

13 (new): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the polar solvent is selected from the group consisting of C<sub>4-15</sub> higher alcohols, polyols, and phenols.

14 (new): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the polar solvent is phenol.

**Int'l Appl. No. : PCT/JP2003/012049**  
**Int'l Filing Date : September 22, 2003**

15 (new): A process for producing 4,4'-dihydroxydiphenylsulfone of high purity according to Claim 2, wherein the reaction suspension and the polar solvent are mixed while heating under pressure to at least partially dissolve dihydroxydiphenylsulfone.

16 (new): A method of producing 4,4'-dihydroxydiphenylsulfone comprising:

subjecting phenol in combination with a sulfonating agent or phenolsulfonic acid to a dehydration reaction in the presence of an aromatic nonpolar solvent while suspending therein the generating dihydroxydiphenylsulfone, which is a isomeric mixture of 4,4'-dihydroxydiphenylsulfone and 2,4'-dihydroxydiphenylsulfone, at an isomerization temperature or higher;

mixing the resulting reaction suspension with a polar solvent to at least partially dissolve the dihydroxydiphenylsulfone; and

precipitating dissolved 4,4'-dihydroxydiphenylsulfone at a precipitation temperature.

17 (new): The method according to Claim 16, wherein while suspending the generating dihydroxydiphenylsulfone in the aromatic nonpolar solvent, an isomerization reaction is carried out in the presence of an acid catalyst.

18 (new): The method according to Claim 16, further comprising:

isolating the precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation in a solvent;

distilling off the solvent after the isolation of the 4,4'-dihydroxydiphenylsulfone to produce a suspension or distillation residue;

at least partially dissolving solids contained in the suspension or the residue in a mixed solvent of a polar solvent and a nonpolar solvent; and

secondarily precipitating 4,4'-dihydroxydiphenylsulfone.

19 (new): The method according to Claim 18, further comprising isolating the secondarily precipitated 4,4'-dihydroxydiphenylsulfone by filtration or decantation at a purity of 99% or higher.